

Work Order ID 130340***130340***

Page 1

Friday, March 06, 2015 11:04:37 AM

Item ID: D350-604-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Rear Locker Extender

Stop ***NS2***

Start Date: 3/20/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/20/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: CL Date: 15/03/06 Tooling:

Date:

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2273	8 K
D350-604-041	C 15/3/24

100

Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and create labels per PPP D350-604-041

CHG008 CHG 009

DAS

MAR 24 2015

110

PURCHASING

0.00

110

Purchasing

Memo

0.00

Purchasing

Issue P/O: 27707

Description: D350-604-041 Rear locker extender.

Manufacture as per dwg D2273

Supplier: FDC Composites Inc.

Certification of Conformity and process sheet required.

***EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF
THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE
FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR
DENTS.***

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

CL 15/03/09 (1)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 130340

Friday, March 06, 2015 11:04:37 AM

130340

Page 2

Item ID: D350-604-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Rear Locker Extender

Stop ***NS2***

Start Date: 3/20/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/20/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Receive & Inspect for Damage & Mat'l Certs	0.00							
120	Packaging								
Packaging	Memo	0.00							
Packaging	Ensure a copy of Certification of Conformity and process sheet from Carbon-by-Design is attached.								
	DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM								
130	QC6- Inspect dimensions to drawing	0.00							
130									
QC	Memo	0.00							
Quality Control	Check hole locations to template. DT 8824 Check process sheet and audit.								
140		0.00							
140									
Small Fab	Memo	0.00							
Small Fab	1- INSTALL DECALS AS PER DWG								
	2- INSTALL CAMLOCK STUDS AND RETAINING WASHER								

Done by supplier.
JD

IX SP15-03-24

① 15-03-24

DAS
9
9-89

MAR 24 2015

DAS
88
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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130340

Page 3

Setup Start *NS1*

Stop *NS2*

Customer:

Run Start *NR1*

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

DAS
9

989

MAR 24 2015

155

Pick Kit

0.00

155

Packaging

Memo

0.00

Packaging

DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM

MAR 24 2015

Da



158

QC4- 100% Inspect kits for completeness

0.00

158

QC

Memo

0.00

Quality Control

DAS
27
9-33
MAR 24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
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Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Work Order ID 130340
Friday, March 06, 2015 11:04:37 AM

130340

Page 4

Item ID: D350-604-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Rear Locker Extender

Stop *NS2*

Start Date: 3/20/2015 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 3/20/2015 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Packaging	0.00							
160									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-604-041								
	Location: _____								
	PPP Rev: _____								
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

MAR 24 2015

PAS
06
0-89

MLS 150324

ME
15-3-24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, March 06, 2015 11:04:36 AM

Page 1

Work Order ID: 130340

130340

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 3/20/2015

Required Date: 3/20/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:Q03.12.01ReformatKJ/RF IPP REV:R
12.02.07 AS PER ECN12-521 DD verf:JLM IPP REV:S 12.04.04
AS PER DWG REV.B DD VERF:EC IPP REV:T 13.09.12 as per
CHG006/ECN13-616 DDVERF:JLM IPP REV:U 14.05.28 as per
chg008/ecn14-563 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
2600-6 *2600-6* Camlock Stud		Purchased	No			140	Each	196.0000	4	4			
**													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST569		196							
				M128398		4							
				M129790		100							
				M131296		92							
2600-LW *2600-LW* Washer, Camlock Retaining		Purchased	No			140	Each	179.0000	4	4			
**													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST569		100							
				m131296		100							
				ST570		79							
				m128429		79							
D2268 *D2268* Placard		Manufactured	No			140	Each	13.0000	1	1			
**													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST006		13							
				110734		1							
				127457		12							

N/A
CY 15/03/24

DAS
06

9-89

MAR 24 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
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Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

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Page 2

Work Order ID: 130340

130340

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 3/20/2015

Required Date: 3/20/2015

Start Qty: 1.00

Required Qty: 1.00

D2269

Manufactured No

155

Each

14.0000

1

1

D2269

Placard

DAS
CS
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

ST006

14

111345

2

127708

12

S

D2728-1

Manufactured Yes

140

Each

0.0000

0

0

D2728-1

Dart Logo Label Small

D350-604-041P

Purchased No

110

Each

0.0000

1

1

D350-604-041P

Rear Locker Extender

1X 8P15-03-24

D5062-041

Manufactured No

155

Each

6.0000

1

1

D5062-041

Bracket Assembly

DAS
27
9-89

Location

Loc Qty

Loc Code

ST144

6

121957

6

S

DAS
CS
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

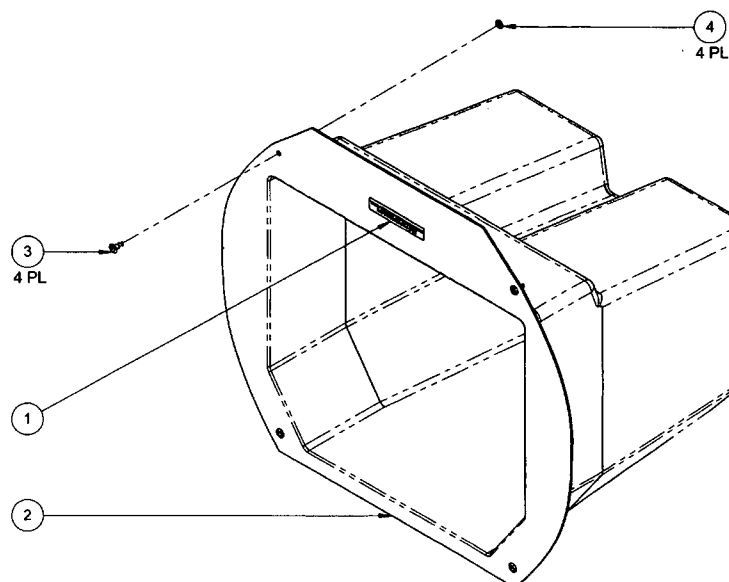
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Equip/Tooling									
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Material									
Operator									
Offset/Setup									
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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
	X	D350-604-041	REAR LOCKER EXTENDER ASSEMBLY
1	1	D2268	PLACARD
2	1	D2273	REAR LOCKER EXTENDER
3	4	2600-6	CAMLOCK STUD
4	4	2600-LW	RETAINING WASHER



D350-604-041 REAR LOCKER EXTENDER ASSEMBLY

C215103/06
W101130340

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 5.5 to 7.5 lbs
- 8) INSTALL D2268 PLACARD IN LOCATION SHOWN, CENTERED ON FLANGE

C	REMOVE D2728-1, D2729-1 DECALS (ZN C5-1) REVISED RELATED NOTES, UPDATED PART WEIGHT	ML	13.12.16
B	INCORPORATE OSI 9470 (ZN D7-1), UPDATE DWG TO CURRENT STANDARDS, ADD D2728-1 PLACARD AND ORIENTATION NOTE (ZN C3-1), ADD D2729-1 (ZN C5-1)	DC	12.02.07
A	NEW ISSUE	CP	02.04.01
REV.	DESCRIPTION	BY	DATE
DESIGN	DW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML		
CHECKED	AP	DRAWING NO.	REV. C
MFG. APPR.	JLM	D350-604-041	SHEET 1 OF 1
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	RLE ASSY	NTS
DATE	14.01.02	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

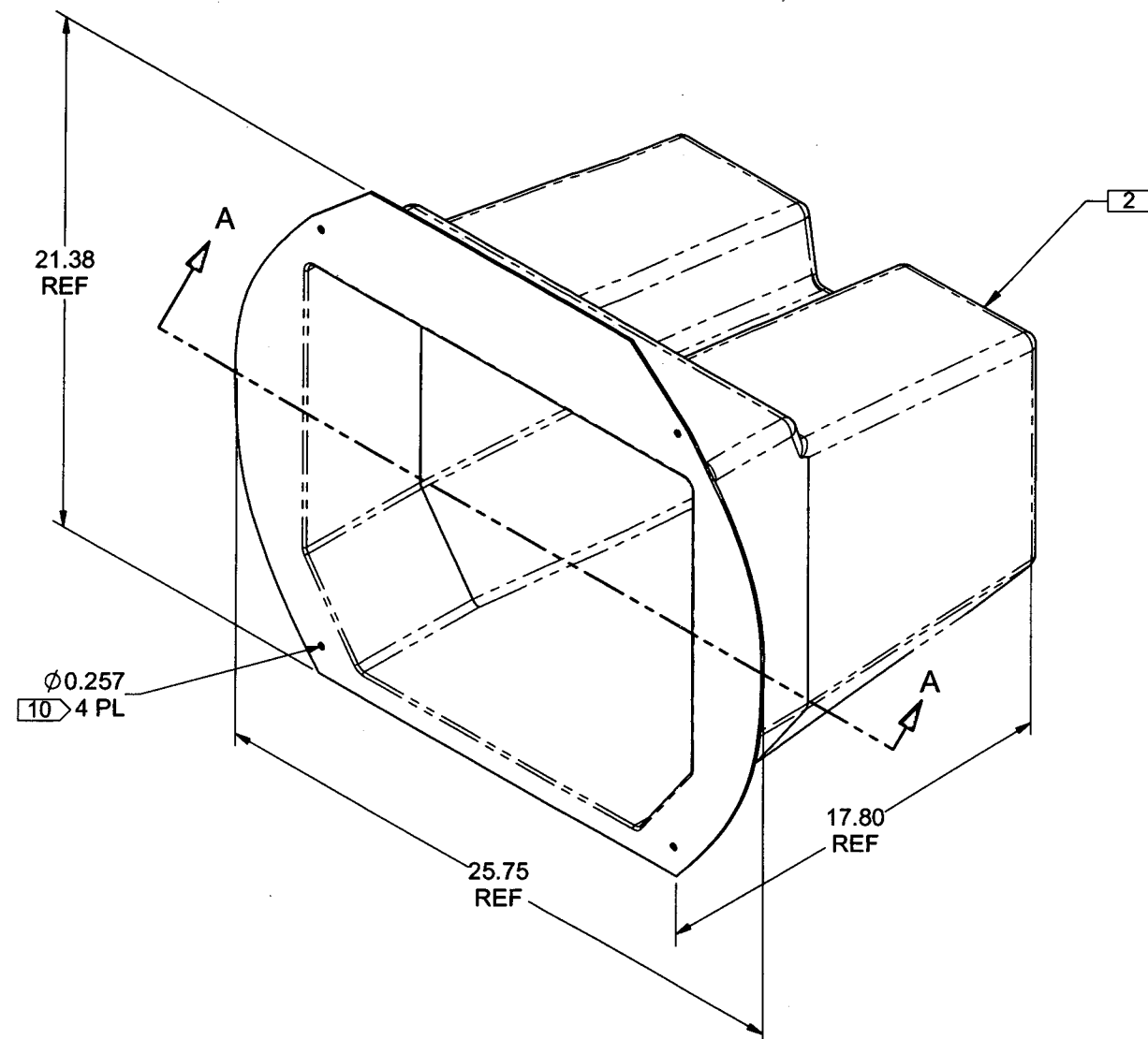
8 7 6 5 4 3 2 1

TABLE 1 

POSITION	MATERIALS
1	TOOL SURFACE
2	GEL COAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

TABLE 2 

POSITION	MATERIALS
1	TOOL SURFACE
2	GEL COAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	7725 FIBER GLASS
8	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER



D2273 REAR LOCKER EXTENDER

 TABLE 3

MATERIAL USED	DESCRIPTION
GEL COAT	POLYCOR 2330PAWK745 (WHITE)
FIBER GLASS MAT	OWENS CORNING 3/4 oz CHOPPED STRAND MAT
FIBER GLASS CLOTH	HEXCEL 7725 FIBER GLASS
RESIN SYSTEM	DION 7704
PRIMER	TEMPO 4500-PB-23G (GREEN)

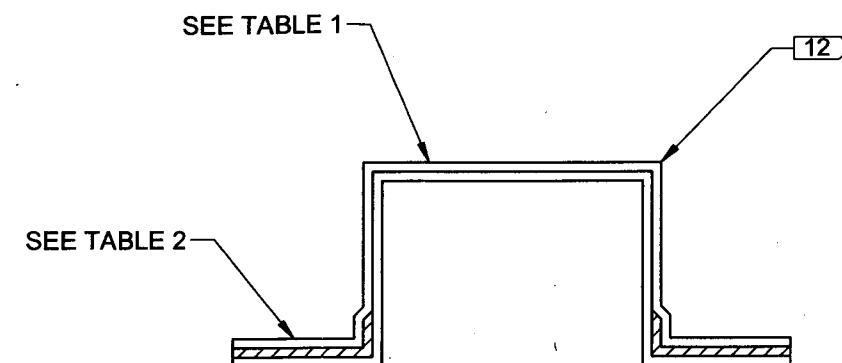
- NOTES:
- 1) MATERIAL: SEE TABLE 3
 - 2) FINISH: SEE TABLES 1, 2, & 3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
 - 7) WEIGHT: 5.5~ 7.5 lbs
 - 8) LAMINATE PER DART QSI 006. LAMINATION SCHEDULE PER THIS DRAWING
 - 9) LAYUP USING DT9871 MOLD. WET LAYUP WITH BAG/VACUUM
 - 10) TRIM & DRILL PER DT9905. OPEN HOLES TO Ø0.196
 - 11) CONSTRUCTION: SEE TABLES 1 & 2
 - 12) MATTE TO HOLD DOWN CORNERS AS REQUIRED

RELEASED

2015 MAR 24

4P EN 15-545

APPROVED



SECTION A-A

K	LAYUP AND MAT'L PER FDC COMPOSITES PROCESS	CP	15.03.12
J	CHANGED GELCOAT TO 4314-001 DURA FR WHITE	ML	13.12.10
I	CHANGE GELCOAT TO POLYCOR 2330PAWK745	SFM	13.08.13
H	CHANGE MATERIAL & MANUFACTURING PROCESS	DC	13.03.15
G	ADD MANUFACTURING OPTION B, ZN B5-1	DC	12.08.08
F	PRIMER LE 3404-S/LE 1175-S WAS 1144-S, ZN A6-1	DC	12.02.27
E	CHANGED SURFACE FINISH FROM 944W005 GELCOAT TO 2330PAWK745 GELCOAT, ZN A7-1. UPDATED DWG TO CURRENT STANDARDS.	DC	12.02.02
D	REMOVE EPOCAST, ADD SURFACE FINISH	CP	02.04.01
C	CLARIFY MATERIAL, LAYUP, AND TOOLING	RF	02.01.30
B	RE-DRAWN	MM	96.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	AJS	DRAWING NO.	REV. K
MFG. APPR.	DD	D2273	SHEET 1 OF 1
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	350 REAR LOCKER EXTENDER	NTS
DATE	15.03.12	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO27707**

Purchase Order Date 3/9/2015

PO Print Date 3/20/2015

Page Number 2 of 4

Order From :

VC-FDC01

FDC COMPOSITES INC.
45 CHEMIN DE L'AEROPORT
ST-JEAN-SUR-RICHELIEU, QUEBEC J3B 7B5

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450-357-1344

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB Destination-Collect

Line Total: \$640.00

4	D350-604-041P	Rear Locker Extender	3/27/2015	1.00 ✓	\$640.00	\$640.00
			Yes	Each		
			3/27/2015			

AS PER DWG D2273 REU.K
B126852

SP15-03-24

Line Total: \$640.00

5	D350-604-041P	Rear Locker Extender	4/8/2015	1.00	\$640.00	\$640.00
			Yes	Each		
			4/8/2015			

AS PER DWG D2273 REU.K
B130341

Line Total: \$640.00

6	D350-604-041P	Rear Locker Extender	4/8/2015	1.00	\$640.00	\$640.00
			Yes	Each		
			4/8/2015			

AS PER DWG D2273 REU.K
B130342

Note:

3/20/2015

FDC Composites inc.
45, Chemin de L'Aéroport
Local 26
Saint-Jean-sur-Richelieu (QC)
J3B 7B5
Tél. : 450 357-1344

Bon de livraison 23/03/2015

Commande : 2102
Référence : PO #027707/1/2/3/4

Client : Dart

DART AEROSPACE
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7

Expédier à

Même

Tél.: 1 613 632-9577

No item	Description	Qté	Qté livrée	Qté B/O
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/1 Lot: 2015-03-12 As per DWG: D2273 Rev J	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/2 Lot: 2015-03-17-1 As per DWG: D2273 Rev J	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/3 Lot: 2015-03-17-2 As per DWG: D2273 Rev J	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/4 Lot: 2015-02-18 As per DWG: D2273 Rev J	1 ✓	_____	_____

SP15-03-24.

Transport : _____

Réf. : _____

Nb colis : _____

Marchandise reçue : _____



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CERTIFICATE of CONFORMITY

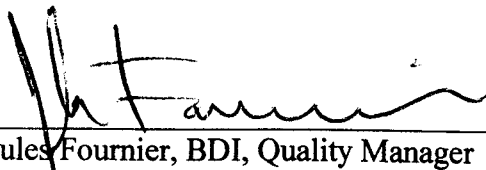
Customer Name: Dart Aerospace.

Customer P/O Number: PO27707

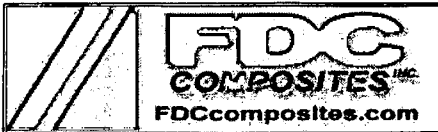
<u>PO Item</u>	<u>Qty</u>	<u>Part number</u>	<u>Drawing number</u>	<u>Description</u>	<u>Lot</u>
1	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-03-12
2	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-03-17-1
3	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-03-17-2
4	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-02-18

515-03-24.

I hereby certify that the workmanship, material and the processes used in the manufacture of the above part(s) supplied are in accordance with the requirements of the applicable Purchase Order.


Jules Fournier, BDI, Quality Manager

Date: 2015-03-23



# LOT	2015-03-18
# SÉRIE(ID)	DAE001-020

7/10/6s

Nom de Gamme :	Rear locker extender - DART
# de Gamme (et rev.) :	DAE001 Rev. A
Nom pièce - Client :	350 Rear locker extender - DART AEROSPACE
# de Dessins (et rev.) :	D2273 Rev. J

Fiche suiveuse

[10-60]	Préparation	Moule, Espace de travail, Matière premières, Consommables	2015-03-16 hgf	2015-03-16 hgf
[70-90]	Finition/Peinture	Appliquer Gel coat, Inspecter	2015-03-18 hgf	2015-03-18 hgf
[100-150]	Laminage	Laminer, Démouler, Inspecter	2015-03-18 hgf	2015-03-18 hgf
[160-220]	Usinage	Percer, Découper, Ébavurer, Inspecter, Sabler	2015-03-20 hgf	2015-03-18 hgf
[230-240]	Finition/Peinture	Primer, Inspection	2015-03-20 hgf	2015-03-18 hgf
250	Expédition	Emballer, Expédier	2015-03-23 hgf	2015-03-23 hgf

Gamme préparé par :

Guillaume G.Jasmin

Gamme révisée par :

Francis Lavigne-Larente

Gamme vérifiée par
(Chefs d'équipe) :

Maxime Gagné

Gamme approuvée par :

Maxime Gagné

Date d'émission :

2015-01-14

Toutes les étapes et les informations requises de cette gamme ont été complétées et remplies



Informations à remplir :

Cases grises pâles

Inspection :

Matières premières

Résine	501-409	2015/04/06	Dion 7704
Norox (Résine)	409-124	2015/04/17	MEKP-9
Norox (Gel coat)	409-124		MEKP-9
Gel coat white	7020150	2015/04/19	Polycor 2330PAWK745
Mat ¾ oz/pi²	14070212	N/A	¾ oz Chopped Strand Mat (Owens Corning Or Equivalent)
Fibre de verre 7725	1288798	N/A	Hexcel 7725 Fiber Glass
Apprêt (Primer) (Vert)	14742	2016/08	Tempo 4500-PB-23G (Vert)
Durcisseur pour apprêt (hardener)	14838	2016/08	Tempo 4500-C-23

Moule : MOU306 ou MOU307	FMS	Sarrau
Pompe à vacuum	55NC	Lunettes de sécurité
Jig de découpe et perçage : GAB350	Peel ply	Soulier de protection
	Film perforé	Gants
	Bleeder breather	Masques à cartouches
	Bag big blue	
	Ruban scellant (Dum Dum)	

Annexe 1
Formulaire de résine (RES-DAR001)

MPS-300-93-31-007-NC	Démoulage 55NC
MPS-300-93-31-058-A	Composite part inspection
MPS-300-93-31-020-B	Edge finish after trimming
MPS-300-93-31-097-NC	Epoxy - Polyamide primer
MPS-300-93-31-084-NC	Protection et entreposage des pièces

Suivi des révisions

A	Révision d'une OP inspection, Ajout nouveaux moules et retrait d'un type de primer	2015-03-04	Guillaume G.Jasmin

Section A : PRÉPARATION

10	<u>Remplir les informations requises sur la première page (cases grises pâles)</u> • Demander au coordonnateur de production (ID) • Inscrire les heures et les dates d'entrée et de sortie de département		2015-03-16 mf
20	<u>Découper la fibre et les périssables (Peel ply, sac étanche...) selon l'ANNEXE 1</u> • ACHEMINER et REMPLIR la section « Matière premières » pour : - Fibre de verre 7725 - Mat ¾ oz	Annexe 1	2015-03-16 mf
30	<u>Préparer la résine selon RES-DAR001 (Gamme de formulation de résine)</u> ACHEMINER et REMPLIR la section « Matière premières » pour : - Résine - Norox	RES-DAR001	2015/03/18 R
40	PRÉPARER le moule ☒ Nettoyer et traiter le moule ☒ Poser le Masking tape	Annexe 1 MOU306 ou MOU307	2015-03-18 Cb
50	<u>Si nécessaire, traiter le moule au 55NC</u> • Faire le test de pelage, s'il ne passe pas, appliquer une couche de 55NC et refaire le test.	MPS-300-93- 31-007	2015-03-18 Cb
60	PRÉPARER l'espace de travail (pendant l'application du gel coat) ☒ Vérifier et préparer la pompe ☒ Préparer et distribuer les outils ☒ Protéger l'environnement de travail (tables, plancher, etc.) ☒ Vêtir l'équipement de protection personnel ☒ Partir la ventilation		2015-03-18 Cebou

Section B : APPLICATION GEL COAT

70	(GEL COAT) : ACHEMINER et REMPLIR la section « Matière premières » pour : Gel coat		2015/03/18 H			
80	APPLIQUER le Gel coat (18 - 22 mils) <table><tr><td>Heure d'application</td><td>04:30 h</td><td>min</td></tr></table>	Heure d'application	04:30 h	min	Annexe 1	2015-03-18 N9f
Heure d'application	04:30 h	min				



Section C : LAMINAGE



110	LAMINER <table border="1"> <thead> <tr> <th>Position</th> <th>Matériel</th> </tr> </thead> <tbody> <tr> <td>10F</td> <td>¾ oz Chopped strand MAT</td> </tr> <tr> <td>20F</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>30F</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>40R</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>50R</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>60R</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>70F</td> <td>7725 Fibre de verre</td> </tr> </tbody> </table> ☒ S'assurer que tous les plis dans le tableau ont été laminés <table border="1"> <tr> <td>Heure début laminage</td> <td>8 h 40 min</td> </tr> <tr> <td>Heure mise sous-vide (sac scellé)</td> <td>9 h 20 min</td> </tr> <tr> <td>Intensité du vide (25 inHg)</td> <td>24 inHg</td> </tr> </table>	Position	Matériel	10F	¾ oz Chopped strand MAT	20F	7725 Fibre de verre	30F	7725 Fibre de verre	40R	7725 Fibre de verre	50R	7725 Fibre de verre	60R	7725 Fibre de verre	70F	7725 Fibre de verre	Heure début laminage	8 h 40 min	Heure mise sous-vide (sac scellé)	9 h 20 min	Intensité du vide (25 inHg)	24 inHg	Annexe 1	2015-03-18 <i>Pluri</i> <i>N.F.</i> A.D.
Position	Matériel																								
10F	¾ oz Chopped strand MAT																								
20F	7725 Fibre de verre																								
30F	7725 Fibre de verre																								
40R	7725 Fibre de verre																								
50R	7725 Fibre de verre																								
60R	7725 Fibre de verre																								
70F	7725 Fibre de verre																								
Heure début laminage	8 h 40 min																								
Heure mise sous-vide (sac scellé)	9 h 20 min																								
Intensité du vide (25 inHg)	24 inHg																								
120	LAISSER POLYMERISER la pièce sous vide pendant 2h		2015-03-18 N/A																						
130	<u>DÉMOULER et IDENTIFIER la pièce</u> ☒ Écrire le numéro de pièce et la date sur un collant – # de lot (date de début) – # de série ID Ex : (AAAAMMJJ) – (DAE001-XXX) ☐ Placer la pièce sur la table d'inspection	Annexe 1	2015-03-18 <i>SG</i>																						
140	<u>Point d'inspection (inspecteur qualité)</u> ☐ Identifier la présence de surplus de résine ☐ Identifier la présence de bulles d'air ☒ Identifier la présence de zone sèche ☒ Identifier la présence de plis de fibre	MPS-300-93-31-058	2015-03-18 Inspecteur ② Qualité																						

150	<u>Nettoyer le moule</u> - Enlever la résine durcie tout le tour du moule avec une spatule en plastique pour ne pas endommager le moule <u>Si nécessaire</u>, nettoyer le moule avec un chiffon légèrement humecté de nettoyant à moule (PMC) NE PAS TROP APPLIQUER DE "PMC"	Spatule en plastique	2015-03-23 <i>peau</i>
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Section D : USINAGE

160	INSTALLER le gabarit de perçage et découpe	GAB350 Annexe 1	2015-03-20 <i>SB</i>
170	PERÇER la pièce Perçer 4 trous avec un forêt F (Dia. .257 po)	Annexe 1	2015-03-20 <i>SB</i>
180	DÉCOUPER la pièce Retirer le gabarit de découpe une fois terminé	Annexe 1	2015-03-20 <i>SB</i>
190	ÉBAVURER les arêtes vives	MPS-300-93- 31-020	2015-03-20 <i>SB</i>
ISO 9001  Qualité			
210	SABLER l'extérieur de la pièce Papier 120 à 320 grains		2015-03-20 <i>SB</i>
220	NETTOYER les surfaces extérieures		2015-03-20 <i>SB</i>

Section E : FINITION/PEINTURE

230	APPLIQUER le primer	MPS-300-93-31-097	2015-03-20 
240	<u>Inspection finale :</u> • Validation de la finition (pinholes, surface inégale, etc...) • Vérifié s'il y a un panneau de contrôle relié à la pièce • Étamber le carré dans le coin inférieur droit de la deuxième page • Valider l'identification de la pièce	MPS-300-93-31-058	2015-03-21 Inspecteur  Qualité

Section F : EXPÉDITION

250	Emballer et expédier	MPS-300-93-31-084	2015-03-23 
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